

In the Claims

The following Listing of Claims replaces all prior versions in the application:

LISTING OF CLAIMS

1. (Previously presented) A Device for automatically centering a laser beam in a light guide, the device comprising:
a volume scatterer including an entry face for the laser beam, the volume scatterer being configured to scatter the laser beam and automatically center it in the light guide.

2. (Previously presented) A Device for automatically centering a laser beam in a monomode or multimode optical fiber, the device comprising:
a volume scatterer including an entry face for the laser beam, the volume scatterer configured to scatter the laser beam and automatically center it in the optical fiber.

3. (Original) Device according to claim 1, in which the thickness (L) of the volume scatterer (2) is equal to at least 100 times the wavelength of the laser beam.

4. (Original) Device according to claim 1, in which the volume scatterer (2) is made of polytetrafluorethylene.

5. (Original) Device according to claim 1, in which the volume scatterer (2) is cylindrical.

6. (Original) Device according to claim 1, in which the volume scatterer (2) comprises a side face and the device also comprises a light reflector (6, 14) that surrounds this side face.

7. (Original) Device according to claim 1, also comprising a lens (10) placed on the entry face of the volume scatterer (2) and designed to defocus the light beam on this entry face.

8. (Original) Device according to claim 1, in which the volume scatterer (2) comprises a side face and the device also comprises a light reflector (14) that surrounds this side face, and is prolonged beyond the entry face and guides the light beam as far as this entry face.

9. (Previously presented) Device according to claim 1, also comprising an auxiliary optical fiber that is optically coupled to the entry face of the volume scatterer (2) and guides the light beam as far as this entry face.

10. (Previously presented) A method for manufacturing a device for automatically centering a laser beam in a light guide, the device including a volume scatterer comprising an entry face for the laser beam, the volume scatterer being configured to scatter the laser beam and automatically center it in the light guide, the method comprising:

manufacturing a tubular light guide ;and

making the volume scatterer from a material capable of scattering light, using the tubular light guide as a cutting punch.

11. (Original) Device according to claim 2, in which the thickness (L) of the volume scatterer (2) is equal to at least 100 times the wavelength of the laser beam.

12. (Original) Device according to claim 2, in which the volume scatterer (2) is made of polytetrafluoroethylene.

13. (Original) Device according to claim 2, in which the volume scatterer (2) is cylindrical.

14. (Original) Device according to claim 2, in which the volume scatterer (2) comprises a side face and the device also comprises a light reflector (6, 14) that surrounds this side face.

15. (Original) Device according to claim 2, also comprising a lens (10) placed on the entry face of the volume scatterer (2) and designed to defocus the light beam on this entry face.

16. (Original) Device according to claim 2, in which the volume scatterer (2) comprises a side face and the device also comprises a light reflector (14) that surrounds this side face, and is prolonged beyond the entry face and guides the light beam as far as this entry face.

17. (Original) Device according to claim 2, also comprising an auxiliary optical fibre (16) that is optically coupled to the entry face of the volume scatterer (2) and guides the light beam as far as this entry face.

18. (Previously presented) Method of manufacturing a device for automatically centering a laser beam in a monomode or multimode optical fibre, the device including a volume scatterer having an entry face for the laser beam, the volume scatterer being configured to scatter the laser beam and automatically center it in the optical fiber, the method comprising:

manufacturing a tubular light guide :and

making the volume scatterer from a material capable of scattering light, using the tubular light guide as a cutting punch.

19. (Previously presented) A device according to claim 1, wherein the volume scatterer is made from a material selected as a function of an absorption coefficient that is as small as possible.

20. (Previously presented) A device according to claim 2, wherein the volume scatterer is made from a material selected as a function of an absorption coefficient that is as small as possible.

21. (Previously presented) A device according to claim 19, wherein the thickness of the volume scatterer is at least about 100 times the wavelength of the laser light.

22. (Previously presented) A device according to claim 20, wherein the thickness of the volume scatterer is at least about 100 times the wavelength of the laser light.